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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,220	07/06/2001	Masahiro Baba	210841US2SRD	3565

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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2677

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,220

Applicant(s)

BABA ET AL.

Examiner

Tom V. Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-52 is/are pending in the application.
- 4a) Of the above claim(s) 32-38, 42 and 45-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29, 39, 43 and 44 is/are rejected.
- 7) ☒ Claim(s) 30, 31, 40 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species One in the reply filed on 7/18/2005 is acknowledged. The traversal is on the ground(s) that examining other species would not be an undue burden. This is not found persuasive because such as the writing of black signal or the detection of motion is indeed different from gray scale conversion or backlight control as disclosed in the elected species.

Still, upon reconsideration, the Examiner agrees that claims 31 and 41 represent a functionally equivalent and obvious alternative to lightening control of a light providing part and would be considered.

Claim 42 is withdrawn from consideration as it is directed to Species Two.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear as to what the term Dmax define. Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29, 39 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy (US 6,175,355 B1) in view of Izawa et al. (EP 525,976 A2).

As for claim 29, Reddy teaches a liquid crystal display method to display an image according to an image signal (figure 3; each pixel frame is divided into sixteen pixel subframes PS0-PS15, corresponding to a four bit binary grayscale image data), comprising

changing a ratio of a display period (all the 'on' subframes) and a non-display period (all the 'off' subframes) of said image according to said image signal (with each gray level according to the image data, inherently the ratio of the display period to the non-display period changes). Please see column 3, line 24 through column 4, line 13.

Reddy does not teach detecting a maximum brightness level of said image signal in 1 frame; and (further) changing the ratio of the display period and the non-display period of said image in a frame period according to said detected maximum brightness level.

Izawa teaches an intensity correction device (fig. 1) for use with display. In particular, Izawa teaches a maximum value detecting circuit 4 for detecting a maximum value of the data of an image signal histogram memory 1. By multiplying a correction

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signal corresponding to the luminance level of the input signal and an inverse of the maximum value detected, optimal intensity correction is achieved (see column 3, lines 17-57; and column 4, lines 32-58). By changing signal intensity for display, one of ordinary skill in the art would recognize that the ratio of display period to non-display period is changed accordingly. Moreover, the detection is naturally performed with at least one frame since display is by frame.

As for claim 39, the display above by modified Reddy displays in intensity corrected manner in subframes that reads on claimed changing a gray-scale of said image signal.

As for claim 43, it is inherent that as the maximum brightness level becomes large, the corresponding image signal would also be larger, thus resulting in a larger ratio of the display period and the non-display period.

Allowable Subject Matter

6. Claims 30, 31, 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 44 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches, inter alias, the limitations "includes

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changing a ratio of a lightening period and a non-lightening period of a light providing part, which lights a liquid crystal panel from a back side thereof" of claims 30 and 40, and "includes changing a transmittance or a no-transmittance of a shutter element provided on a light providing part or on a front side of a liquid crystal panel" of claims 31 and 41.

Response to Arguments

9. Applicant's arguments with respect to claims 29, 30, 31, 39, 40, 41, 43 and 44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
October 11, 2005

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", written over a large, loopy circular flourish.